NASA Procedural Requirements

NPR 7900.3B
Effective Date: June 14, 2007
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COMPLIANCE IS MANDATORY

Printable Format (PDF)

Request Notification of Change (NASA Only)

Subject: Aircraft Operations Management

Responsible Office: Aircraft Management Division

Appendix I Compliance Matrix

Req #	NPR P	Requirement Statement	Responsible Party	Method to Ensure Compliance
01	1.1.5	NASA aircraft pilots shall secure diplomatic clearance approval prior to entry into the airspace of a foreign country except for brief use of foreign airspace adjoining the United States as directed by air traffic control.	NASA aircraft pilots	IAOP Review
02	1.1.6	For each Center operating aircraft/UASs or procuring aircraft/UAS services, the Center Director shall maintain a program-independent Flight Operations Office, the specific purpose of which will be to plan, organize, direct, and control the operations, maintenance, modification, safety, and support of all Center-assigned or -contracted aircraft.	Center Directors	IAOP Review
03	1.1.6	The head of this office shall be the senior line manager who is responsible for aviation activities at the Center.	Center Directors	IAOP Review

04	1.1.6	The Center Director shall assign the head of the Flight Operations Office the authority and responsibility, and provide the resources necessary to manage and conduct safe, effective, and efficient operations in accordance with NASA directives, guidance, and other applicable Federal regulations.	Center Directors	IAOP Review
05	1.1.6.1	Prior to contract award, the head of the Flight Operations Office shall review and concur upon any Center contract or agreement that includes aviation operations.	Center Chief of Flight Operations	IAOP Review
06	1.1.6.2	If a Center does not have a Flight Operations Department, the Center Director shall have another Center's Flight Operations Department review and concur on such contracts or agreements for them each time they procure aviation services.	Center Director	IAOP Review
07	1.2.1	The Assistant Administrator for the Office of Infrastructure and Administration shall designate aircraft classifications and assign aircraft to the appropriate Center after consultation with the affected Mission Directorates and Center Directors.	Assistant Administrator for the Office of Infrastructure and Administration	Flight Operations Performance Measurements and Reporting
08	1.2.1	Records created throughout flight operations management shall be maintained, managed, and disposed of by each Center's Flight Operations Office or designated office in accordance with NPR 1441.1, NASA Records Retention Schedules.	Center Chief of Flight Operations	IAOP Review
09	1.2.2.1	Mission Directorate Associate Administrators shall coordinate early with the Office of Infrastructure and Administration to establish program or project	Mission Directorate Associate Administrators	Flight Operations Performance Measurements and Reporting

		plans involving the requirement for acquisition or use of aircraft, including UASs.		
10	1.2.2.2	Mission Directorate Associate Administrators shall comply with OMB Circulars A-76 and A-126 as they apply to the acquisition of aircraft/UASs and coordinate related documentation requirements with the Assistant Administrator for the Office of Infrastructure and Administration.	Mission Directorate Associate Administrators	Flight Operations Performance Measurements and Reporting
11	1.2.2.3	Mission Directorate Associate Administrators shall annually review aircraft mission and program requirements, use, and associated costs, and project those requirements and costs over five years in an annual report to the HQ AMD not later than September 30 of each year.	Mission Directorate Associate Administrators	Flight Operations Performance Measurements and Reporting
12	1.2.2.4	Mission Directorate Associate Administrators shall submit OMB Circular A-11, Exhibit 300, for aircraft and aircraft programs funded by their Directorate. These submissions shall be coordinated with the Office of Infrastructure and Administration and the Office of the Chief Financial Officer.	Mission Directorate Associate Administrators	Flight Operations Performance Measurements and Reporting
13	1.2.3.1	Center Directors shall be responsible for the airworthiness and flight safety of assigned aircraft, including UASs.	Center Directors	IAOP Review
14	1.2.3.2	Center Directors shall be responsible for coordination with the Office of Infrastructure and Administration in establishing program or project plans involving the requirement, assignment, and operation of aircraft/UASs.	Center Directors	IAOP Review

15	1.2.3.3	Center Directors shall be responsible for annually reviewing aircraft mission and program requirements (for those programs controlled/funded by their respective Center), use, and associated costs, and projecting those requirements and costs over five years in an annual report to the HQ AMD not later than September 30 of each year.	Center Directors	IAOP Review
16	1.2.3.4	Center Directors shall be responsible for ensuring compliance with the Financial Management Requirements in the appropriate use and application of function codes that are used to account for, track, and report aircraft costs.	Center Directors	IAOP Review
17	1.2.3.5	Center Directors shall be responsible for quarterly reporting of aircraft operations and costs to Headquarters, as stipulated in chapter 11 and specific MMA reporting requirements detailed in chapter 4 of this NPR.	Center Directors	IAOP Review
18	1.2.3.6	Center Directors shall be responsible for ensuring compliance with 41 C.F.R. S102-33, 41 C.F.R. S 300/301, and OMB Circular A-126.	Center Directors	IAOP Review
19	1.2.3.7	Center Directors shall be responsible for the budget for personnel and travel in support of the IAOP.	Center Directors	IAOP Review
20	1.2.3.8	Center Directors shall be responsible for approving aircraft charters or leases for periods of 30 days or less with seven days prior notice to the HQ AMD within the Office of Infrastructure and Administration.	Center Directors	IAOP Review

21	1.2.3.9	Center Directors shall be responsible for the technical assessment, cost evaluation, acquisition, use, and disposition of all aircraft/UASs under their control.	Center Directors	IAOP Review
22	1.2.3.9	Center Directors shall coordinate and submit all aircraft acquisition and disposition proposals to the Assistant Administrator for the Office of Infrastructure and Administration for approval.	Center Directors	IAOP Review
23	1.2.3.9	Center Directors shall report all acquisition and disposal actions to the HQ AMD to comply with Federal aircraft data reporting requirements.	Center Directors	IAOP Review
24	1.2.3.10	Center Directors shall be responsible for ensuring that Center managers who acquire aircraft/UAS or aviation services coordinate those acquisitions with the Center's Flight Operations Department to ensure compliance with the NASA Aviation Safety Program and aircraft management policies.	Center Directors	IAOP Review
25	1.2.4.1	Program/project managers shall coordinate early with the Office of Infrastructure and Administration to establish program or project plans involving the requirement for acquisition or use of aircraft, including UASs.	Program/project managers	Flight Operations Performance Measurements and Reporting
26	1.2.4.2	Program/project managers shall prepare a Business Case Analysis in accordance with OMB Circulars A-11, A-76, and A-126 prior to the acquisition of aircraft/UASs and gain approval of the BCA by the cognizant Mission Directorate Associate Administrator and the Assistant Administrator for the Office of Infrastructure and Administration.	Program/project managers	Flight Operations Performance Measurements and Reporting

27	1.2.4.3	Program/project managers shall annually review aircraft mission and program requirements, use, and associated costs and project those requirements and costs over five years to support the Mission Directorate's annual report to the HQ AMD not later than September 30 of each year.	Program/project managers	Flight Operations Performance Measurements and Reporting
28	1.2.4.4	Program/project managers shall submit OMB Circular A-11, Exhibit 300, as appropriate, for aircraft and aircraft programs funded by their Directorate. These submissions shall be coordinated with the appropriate Mission Directorate, the Office of Infrastructure and Administration, and the Office of the Chief Financial Officer.	Program/project managers	Flight Operations Performance Measurements and Reporting
29	1.2.5.1a	The Center Chief of Flight Operations shall hold the following qualifications: a minimum of ten years of relevant aviation-related experience, supervisory or managerial experience in aircraft operations similar to the primary aircraft type operated at the Center, and a high level of familiarity with the organization's aircraft operations.	Center Chief of Flight Operations	IAOP Review
30	1.2.5.1b	The Center Chief of Flight Operations shall hold the following qualifications: current or previously held qualifications as a NASA Pilot in Command, a military rating as an Aircraft Commander, or a Federal Aviation Administration Airline Transport Pilot certificate.	Center Chief of Flight Operations	IAOP Review
31	1.2.5.3a	The Center Chief of Flight Operations shall ensure the effective management of Flight Operations under that Center's cognizance, per NPD 7900.	Center Chief of Flight Operations	IAOP Review

32	1.2.5.3b	The Center Chief of Flight Operations shall authorize personnel to operate and maintain aircraft under NASA control.	Center Chief of Flight Operations	IAOP Review
33	1.2.5.3c	The Center Chief of Flight Operations shall determine the number of aircraft types in which an individual crewmember may maintain qualification at any given time and annually review that determination.	Center Chief of Flight Operations	IAOP Review
34	1.2.5.3d	The Center Chief of Flight Operations shall recommend assignment of the Center Aviation Safety Officer, with the concurrence of the Center Chief of Safety and Mission Assurance, to the Center Director for approval.	Center Chief of Flight Operations	IAOP Review
35	1.2.5.3e	The Center Chief of Flight Operations shall fly as a crewmember or observer on all assigned aircraft, where practicable and as necessary, to observe performance of assigned flightcrews.	Center Chief of Flight Operations	IAOP Review
36	1.2.6.1	The ASO shall manage the Center's aviation safety program as described in chapter 6 of this NPR.	Aviation Safety Officer	IAOP Review
37	1.2.6.2	The ASO shall be a civil servant assigned to the Flight Operations Department, serve as the Center's focal point for aviation safety, and act on behalf of the Center Director when discharging this responsibility.	Aviation Safety Officer	IAOP Review
38	1.2.7.1a	To qualify for assignment, the Chief Pilot shall hold and maintain qualification as a NASA PIC.	Chief Pilot	IAOP Review

39	1.2.7.1b	To qualify for assignment, the Chief Pilot shall have at least three years experience within the past six years as PIC of an aircraft similar in category and class to at least one of the aircraft used in the types of operations being conducted at the Center.	Chief Pilot	IAOP Review
40	1.2.7.1c	To qualify for assignment, the Chief Pilot shall demonstrate satisfactory supervisory and managerial capabilities.	Chief Pilot	IAOP Review
41	1.2.8.1a	To qualify for assignment, the Chief of Maintenance shall have had at least three years of experience within the past six years in aircraft maintenance in a similar-size operation maintaining aircraft similar to those used by the Center, with management experience such as supervisor or lead in aircraft maintenance.	Chief of Maintenance	IAOP Review
42	1.2.8.1b	To qualify for assignment, the Chief of Maintenance shall have held an FAA Airframe and Power Plant Certification or have held an equivalent military designation, or demonstrate an equivalent level of qualifications and expertise.	Chief of Maintenance	IAOP Review
43	1.2.9.1a	To qualify for assignment, the Chief of Quality Assurance shall hold a current FAA Inspection Authorization Certificate or have held an equivalent military designation, or demonstrate an equivalent level of qualifications and expertise.	Chief of Quality Assurance	IAOP Review
44	1.2.9.1b	To qualify for assignment, the Chief of Quality Assurance shall maintain a level of inspection expertise and activity needed to meet FAA Inspection Authorization Certificate renewal requirements or the military equivalent.	Chief of Quality Assurance	IAOP Review

45	1.2.9.1c	To qualify for assignment, the Chief of Quality Assurance shall have had at least three years of maintenance experience, within the last six years, one year of which must have been as a maintenance inspector.	Chief of Quality Assurance	IAOP Review
46	1.2.9.1d	To qualify for assignment, the Chief of Quality Assurance shall have at least one year of experience in a supervisory capacity.	Chief of Quality Assurance	IAOP Review
47	1.4.1	When deviations from this NPR are necessary, Center Directors or Associate Administrators shall submit requests for waivers to the Assistant Administrator for the Office of Infrastructure and Administration via HQ AMD.	Center Directors or Associate Administrators	IAOP Review
48	1.4.1	Prior written approval from the Assistant Administrator for the Office of Infrastructure and Administration shall be obtained before implementing procedures that are less restrictive than those contained in this NPR.	Center Directors or Associate Administrators	IAOP Review
49	1.4.4	The waiver approval authority shall only approve waivers for a specific event, period, or duration and shall specify the boundaries of the requirement being waived.	Waiver Approval Authority	IAOP Review
50	1.4.5	The waiver approval authority shall notify all who have current waivers against this NPR when this NPR is updated and request verification of continued validity.	Waiver Approval Authority	IAOP Review
51	1.4.6	NASA officials who request waivers shall document the following in the request for waiver: a.) identification of the directive and specific requirement(s) for which the waiver is requested; b.) scope (e.g., site, facility, operation, or activity) and duration of the waiver request; c.) justification	NASA officials who request waivers	IAOP Review

		for the waiver, including: (1) purpose/rationale for requesting the waiver; (2) whether application of the requirement in the particular circumstances would conflict with another requirement; (3) whether application of the requirement in the particular circumstances would not achieve, or is not necessary to achieve, the underlying purpose of the requirement; (4) any other pertinent data or information related to the waiver request (e.g., cost or schedule considerations); (5) identification and justification of the acceptance of any additional risk that will be incurred if the waiver is granted; (6) a description of any special circumstances that warrant granting the waiver, including whether: (a) application of the requirement in the particular circumstances would not be justified by any safety and health reason; (b) the waiver would result in a health and safety improvement that compensates for any detriment that would result from granting the waiver; or (c) there exists any other material circumstances that were not considered when the requirement was adopted, for which it is in the public interest to grant a waiver; (7) a description of any alternative or mitigating action that will be taken to ensure adequate safety and health and protection of the public, the workers, and the environment for the period the waiver will be effective.		

52	2.2.1	NASA aircraft shall be operated in an airworthy condition as certified by a formal NASA airworthiness review board, under the authority of a NASA Center Director, using a NASA Certificate of Airworthiness process.	Center Directors	IAOP Review
53	2.2.1	All NASA aircraft shall possess and maintain a NASA Certificate of Airworthiness (appendix E) approved by the Center Director.	Center Directors	IAOP Review
54	2.2.1	All aircraft used for MMA purposes shall possess a "Normal" or "Transport" category FAA Certificate of Airworthiness.	Center Directors	IAOP Review
55	2.2.1	When NASA aircraft are transferred between Centers, a new NASA Certificate of Airworthiness approved by the receiving Center Director shall be obtained.	Center Directors	IAOP Review
56	2.2.2	Airworthiness, flight safety, and mission readiness reviews, including configuration control, shall be conducted for all aircraft modifications, with the exception of those noted in 2.4.2.4 that are cleared through an airworthiness review process or configuration control process.	Center Directors	IAOP Review
57	2.2.3	Each Center shall clearly identify the appropriate airworthiness review process for experimental, research, and operational configurations and nonstandard ground or flight operations for all aircraft operated by the Center.	Center Directors	IAOP Review
58	2.3.2	Center Directors shall establish airworthiness, flight safety, mission readiness, and configuration control review processes and procedures to identify any hazards, to manage the risks associated with flight programs, to ensure safe flight operations, to manage and	Center Directors	IAOP Review

		thoroughly document aircraft configurations, and to ensure that flight objectives satisfy programmatic requirements.		
59	2.3.2	Center Directors shall ensure that these procedures are incorporated into the contracts of those who operate and maintain NASA aircraft.	Center Directors	IAOP Review
60	2.4.1	Center Directors shall establish procedures to ensure that airworthiness and safety reviews are conducted for flight operations or missions.	Center Directors	IAOP Review
61	2.4.1.1	Reviews shall ensure that hazards associated with aircraft experimental modifications, research, or unique internal or external payloads and nonstandard operations are identified and that risks are adequately managed to enhance the likelihood of mission and program success for all aircraft missions or operations and to minimize the risks to persons or property.	Center Directors	IAOP Review
62	2.4.1.2	Program managers shall review flight programs early in the development cycle to identify the need and schedule for additional safety-related resources, procedures, or reviews.	Program managers	IAOP Review
63	2.4.1.2	Managers shall ensure that aircraft modifications are accomplished with sufficient time for engineers and technicians to safely complete required tasks.	Program managers	IAOP Review
64	2.4.1.3	Center Directors shall establish configuration control procedures to ensure that the configuration of each NASA aircraft is fully documented and reviewed.	Center Directors	IAOP Review

65	2.4.1.3	A minimum equipment list shall be established for all non-test-related equipment for all aircraft operations.	Center Directors	IAOP Review
66	2.4.1.3	Test-related equipment will be handled through the flight test planning process. If test equipment remains on the aircraft for non-test-related missions, then such equipment shall be addressed in the aircraft MEL.	Center Directors	IAOP Review
67	2.5.1	Each Center Director shall ensure that the ARP is staffed with personnel possessing the appropriate scientific, engineering, operational, maintenance, and managerial expertise.	Center Directors	IAOP Review
68	2.5.1	At least one member of the ARP shall be a NASA pilot.	Center Directors	IAOP Review
69	2.5.1	The ASO shall be a member of the ARP.	Center Directors	IAOP Review
70	2.5.2	Any cockpit or cabin modifications that might interfere with aircrew egress shall be reviewed by a subpanel including aircrew and life support personnel.	Center Directors	IAOP Review
71	2.5.4	The ARP shall be continual throughout the course of a project.	Center Directors	IAOP Review
72	2.5.5	Each Center shall establish the content of the ARP based on the aircraft mission, complexity of the modifications, and the inherent hazards associated with the operation.	Center Directors	IAOP Review
73	2.5.5	Content for ARP approvals shall be documented in Center-level ARP procedures.	Center Directors	IAOP Review
74	2.5.5.2	The results of tests conducted to verify the engineering analysis also shall be considered.	Center Directors	IAOP Review

75	2.5.5.3	Actions to be taken in the event of in-flight malfunctions or emergency conditions associated with the aircraft modifications or nonstandard operations also shall be described.	Center Directors	IAOP Review
76	2.5.6	The final approval shall contain a description of the configuration of the aircraft, operating instructions and procedures, operating limitations and restrictions, and specific maneuvers or operations for which the aircraft is cleared.	Center Directors	IAOP Review
77	2.6.1	NASA aircraft shall be maintained in accordance with an established and documented maintenance program, using standards of quality in workmanship, materials, and support equipment that will ensure airworthiness of aircraft for safety of flight.	Center Directors	IAOP Review
78	2.6.1	Each Center shall develop written guidance for maintenance practices and procedures that include aircraft-specific (manufacturer, NASA, or DoD) maintenance practices.	Center Directors	IAOP Review
79	2.6.2	All NASA aircraft, specifically designated ground support equipment, and aircraft operated by NASA flight and ground crews shall be maintained under an approved airworthiness program.	Center Directors	IAOP Review
80	2.6.2	The program/process/ARP shall comply with applicable FAA-approved Original Equipment Manufacturer standards, DoD technical standards, or NASA standards in material quality and workmanship.	Center Directors	IAOP Review

81	2.6.2.1	NASA aircraft maintenance and quality assurance inspection programs shall address calendar, depot, periodic, phase, pre-flight, and post-flight inspections, and provisions for inspection and certification procedures of specific maintenance actions.	Center Directors	IAOP Review
82	2.6.2.2	NASA aircraft maintenance and quality assurance inspection programs shall address determination of the serviceability, authenticity, traceability, and airworthiness of parts, components, accessories, and assemblies by subjecting them to inspections, tests, or operational checks.	Center Directors	IAOP Review
83	2.6.2.3	NASA aircraft maintenance and quality assurance inspection programs shall address a configuration control process to ensure compliance with applicable airworthiness, service and safety bulletins, or other pertinent requirements, such as those from FAA, DoD, or OEMs. The process shall allow for documentation of alternate procedures or inspections if they are substituted.	Center Directors	IAOP Review
84	2.6.2.4	NASA aircraft maintenance and quality assurance inspection programs shall address a program for trend analysis and investigation of recurring discrepancies, high-failure-rate components, and high-usage materials.	Center Directors	IAOP Review
85	2.6.2.5	NASA aircraft maintenance and quality assurance inspection programs shall address documentation consisting of aircraft logs and records, accessory change records, weight and balance records, and aircraft property accountability	Center Directors	IAOP Review

		records, as well as documentation required by NPR 4100, NASA Materials Inventory Management Manual.		
86	2.6.3.1	A comprehensive aircraft maintenance quality assurance program shall be established at each NASA Center that is responsible for the maintenance of NASA aircraft.	Center Directors	IAOP Review
87	2.6.4.1	The Center Director shall ensure that quality assurance inspectors and maintenance personnel are trained, qualified, and assigned to implement a comprehensive maintenance and quality assurance program for Center Flight Operations.	Center Directors	IAOP Review
88	2.6.5.1	Center Flight Operations shall maintain continuous onsite oversight of vendors and facilities performing aircraft depot-level overhauls or major aircraft modifications to ensure quality of workmanship, maintenance of NASA standards, and schedule and cost control.	Center Chief of Flight Operations	IAOP Review
89	2.6.5.2	Individuals assigned onsite responsibilities shall have expertise and experience in aircraft airworthiness standards and requirements.	Center Chief of Flight Operations	IAOP Review
90	2.6.6.1	Each Center shall have a documented tool control program.	Center Directors	IAOP Review
91	2.6.6.2	Each Center shall have a documented FOD control program.	Center Directors	IAOP Review
92	3.1.1.1	Center Chiefs of Flight Operations shall establish procedures to ensure that all flights of NASA aircraft are properly approved and documented, allowing for all contingencies such as deployed aircraft and aircraft ferry	Center Chief of Flight Operations	IAOP Review

		approvals.		
93	3.1.2.2	Emergency lifesaving, humanitarian operations, and Homeland Security missions, as pre-approved by the Center Director, may be carried out in any NASA aircraft he/she designates; the circumstances shall be documented and reported to the Assistant Administrator for the Office of Infrastructure and Administration.	Center Directors	IAOP Review
94	3.2.1	The PIC of a NASA aircraft shall be a designated NASA pilot.	Pilot in Command	IAOP Review
95	3.2.3	The PIC of a NASA aircraft shall ensure the crew is briefed on the mission plan, safety procedures, and emergency information, including emergency egress.	Pilot in Command	IAOP Review
96	3.2.4	Center Chiefs of Flight Operations shall have a process to train, designate, and document individuals authorized to pilot Functional Check Flight operations.	Center Chiefs of Flight Operations	IAOP Review
97	3.3	Records pertaining to NASA flight activities shall include, at a minimum, the following: a.) approval of mission; b.) name and duty status of all on board; c.) purpose of the flight; d.) routing or flight events and takeoff /landing times.	Center Chief of Flight Operations	IAOP Review
98	3.4.1	NASA flightcrews shall be qualified in accordance with written standards set forth in Center-developed criteria.	Center Chief of Flight Operations	IAOP Review
99	3.4.1	Records of qualification and flight evaluation are required and shall be maintained in aircrew training records.	Center Chief of Flight Operations	IAOP Review

100	3.4.1	A review of pilot and crew qualifications shall be made prior to flight assignment to ensure that prerequisites for the intended mission are met.	Center Chief of Flight Operations	IAOP Review
101	3.4.1	The Center Chief of Flight Operations shall designate the crewmembers for aircraft that are under the Center's purview.	Center Chief of Flight Operations	IAOP Review
102	3.4.3.1	Center Flight Operations shall impose sufficient proficiency requirements or flight time/sortie requirements on flightcrews to meet mission needs.	Center Chief of Flight Operations	IAOP Review
103	3.4.3.1	Center flightcrew currency shall, at a minimum, include the following: a.) annual night flying requirements; b.) landings in category (fixed-wing/rotorcraft); c.) six instrument approaches under actual or simulated conditions within six calendar months; d.) method to regain instrument or landing currency, once lapsed; e.) completing 100 hours of flight time per fiscal year, PICs must fly at least 50 of those hours as PIC. The hours shall be flown in any aircraft or flight simulator approved by the Center Chief of Flight Operations.	Center Chief of Flight Operations	IAOP Review
104	3.4.3.2	Center directives shall establish separate aircrew qualification and currency requirements for unique aircraft (e.g., project, military, experimental) in which the aircrew cannot meet the above requirements.	Center Director	IAOP Review
105	3.4.4	Flight proficiency shall be evaluated at least once per year by a NASA or NASA-designated pilot who is an instructor or examiner pilot in the aircraft used for the evaluation.	Center Chief of Flight Operations	IAOP Review

106	3.4.5	Instrument flying proficiency shall be evaluated at least once per year using professional aeronautical standards such as FAA Instrument Practical Test Standards.	Center Chief of Flight Operations	IAOP Review
107	3.4.7	Written tests shall be administered and reviewed annually by a check pilot to ensure current pilot knowledge of air traffic control procedures, aircraft systems, normal and emergency operating procedures, Agency and local instructions, and other pertinent regulations and procedures.	Check Pilot	IAOP Review
108	3.4.8	Pilot annual flight evaluations shall be reviewed by the Center Chief of Flight Operations or designee.	Center Chief of Flight Operations or designee	IAOP Review
109	3.4.9	Each Center Chief of Flight Operations shall establish local instructions regarding training and currency requirements that must be met for a guest pilot/researcher.	Center Chief of Flight Operations or designee	IAOP Review
110	3.4.9	The Center shall establish policies for flying media representatives.	Center Directors	IAOP Review
111	3.4.10	Flight Engineers shall possess an FAA Flight Engineer Certificate appropriate for the aircraft category or equivalent military certification.	Center Chief of Flight Operations	IAOP Review
112	3.4.10	Centers shall develop alternate training programs to satisfy this requirement should the above personnel not be available.	Center Directors	IAOP Review
113	3.4.11	Qualified non-crewmembers shall be authorized by the Chief of Flight Operations to participate in flight operations to support mission requirements.	Chief of Flight Operations	IAOP Review

114	3.4.11	Qualified non-crewmembers shall be trained and will maintain qualification in accordance with local Center policies and procedures which shall, at a minimum, include cabin emergency and egress procedures.	Chief of Flight Operations	IAOP Review
115	3.6.1	Program managers shall conduct an MRR when multiple aircraft operations are to be conducted.	Program managers	IAOP Review
116	3.6.1	Prior to conducting an FRR/ORR, each individual aircraft involved in the flight or campaign shall have an approved Certificate of Airworthiness.	Center Directors	IAOP Review
117	3.6.2	The chairman of the Center Airworthiness Process Program or a representative shall attend all readiness reviews.	Chairman of the Center Airworthiness Process Program or a representative	IAOP Review
118	3.6.3	A supervisory Flight Operations pilot or other Flight Operations supervisory personnel shall chair and approve the FRR/ORR flight authorization.	A supervisory Flight Operations pilot or other Flight Opera-tions supervisory personne	IAOP Review
119	3.6.4	Prior to conducting an MRR, each aircraft involved in the flight or campaign shall have an approved FRR/ORR.	Center Directors	IAOP Review
120	3.6.4.1	The program/project management of the flight/campaign event shall assign an individual to chair and make the MRR evaluation and who has authorization to proceed with the flight program.	program/project manager	IAOP Review
121	3.6.4.1	The MRR shall consider the following: a.) flight experiment and science flight requirements; b.) organizational and functional chart; c.) payload status; d.)	Center Directors	IAOP Review

		flight operations procedures; e.) aircraft separation/coordination; f.) communication plan; g.) inter-Center/interagency communication/coordination plan; h.) ground operations procedures dealing with hazardous systems; i.) schedule timeline; j.) roles and responsibilities; k.) science coordination requirements; l.) pre-accident and/or incident notification plan; m.) liability coverage; n.) deployment; o.) logistics; p.) public affairs/outreach; q.) mission assurance.		
122	3.6.5	Centers, Component Facilities, and contractors that do not have an aircraft operations department and operate NASA aircraft/UASs shall coordinate with an alternate NASA Center aircraft operations department for FRR/ORR and MRR services and support.	Center Directors	IAOP Review
123	4.2.1	When operated as civil aircraft, maintenance and aircrew standards shall meet the requirements for retention of FAA airworthiness certification and operation.	Center Directors	IAOP Review
124	4.2.1	The Certificate of Airworthiness shall be displayed per FAR 91.203 (a) and (b).	Center Chief of Flight Operations	IAOP Review
125	4.2.1	Mission management flights shall be operated and maintained in accordance with FAR parts 21, 39, 43, 61, and 91 subparts A and B.	Center Chief of Flight Operations	IAOP Review
126	4.2.1	Centers shall develop policies/procedures to operate MMA in accordance with the procedures specified in OMB Circular A-126 and 41 C.F.R., chapter 101-36.4, as well as the provisions of this chapter.	Center Directors	IAOP Review

127	4.2.2	Mission management flights shall be conducted only in support of activities that constitute the discharge of NASA's official responsibilities and only when the aircraft is not otherwise scheduled for "Mission Required" or "Required Use" flight operations.	Center Directors	IAOP Review
128	4.2.2	NASA employees shall not use mission management flights if commercial airlines, charter aircraft service, or ground transportation are reasonably available to meet the mission need, unless the flight is cost justified in accordance with OMB Circular A-126 and this chapter.	Center Directors	IAOP Review
129	4.2.3	Flights that require excessive deadheading or involve long, unproductive layovers shall be avoided, absent special emergency situations.	Center Directors	IAOP Review
130	4.2.3	Whenever practicable, inter-Center airlift requirements shall be combined.	Center Directors	IAOP Review
131	4.2.4	Travel authorized by another Federal agency or Congressional committee also shall be approved by an Official-in-Charge of a Headquarters Office or a NASA Center Director.	Center Directors	IAOP Review
132	4.2.4	The names of the passengers and purpose of travel for such passengers shall be documented in the mission management flight request form.	Center Chief of Flight Operations	IAOP Review
133	4.2.5	All passengers shall be manifested on NASA Form 1269, Flight Itinerary and Passenger Manifest.	Center Chief of Flight Operations	IAOP Review

134	4.2.5	Prior to departure of any mission management flight, the PIC shall certify the accuracy of the manifest and file a copy with a responsible ground agency such as a military, civil, or NASA operations office.	Pilot In Command	IAOP Review
135	4.2.6	NASA mission management flight operations shall be conducted under the cognizance of the Assistant Administrator for the Office of Infrastructure and Administration.	Assistant Administrator for the Office of Infrastructure and Administration	Flight Operations Performance Measurements and Reporting
136	4.2.7	The Assistant Administrator for the Office of Infrastructure and Administration shall designate NASA MMA.	Assistant Administrator for the Office of Infrastructure and Administration	Flight Operations Performance Measurements and Reporting
137	4.3.1	Required Use designation shall be controlled solely by the NASA Administrator and approved according to section 4.4.2 of this chapter.	NASA Administrator	IAOP Review
138	4.3.2	All passenger travel that can reasonably be performed using commercial airlines, charter aircraft service or ground transportation to meet the mission need may not be designated as Mission Required. Classification of a mission management (passenger or cargo) flight as Mission Required requires approval from the Assistant Administrator for the Office of Infrastructure and Administration before the flight and shall be coordinated with the HQ AMD.	Assistant Administrator for the Office of Infrastructure and Administration	IAOP Review
139	4.3.3	NASA employees shall not use mission management flights for Other Official Travel if commercial airline, charter aircraft service, or ground transportation is reasonably available, unless the flight is cost justified in accordance with	Center Directors	IAOP Review

		OMB Circular A-126 and this chapter.		
140	4.3.5.1	When using "no commercial airline or aircraft service is reasonably available" to justify the use of mission management flights, actual airline schedule information shall be provided as part of, and attached to, the aircraft request.	Center Directors	IAOP Review
141	4.3.5	Other Official Travel that is not Required Use or Mission Required, as defined in 4.3.3 above, shall be authorized only when either: no commercial airline or aircraft (including charter) service is reasonably available (i.e., able to meet the traveler's departure or arrival requirements within a 24-hour period), unless extraordinary circumstances require a shorter period to effectively fulfill Agency requirements; or the actual cost of using a Government aircraft is not more than the cost of using commercial airline or aircraft (including charter service).	Center Directors	IAOP Review
142	4.3.5.2	The actual cost of using a Government aircraft is not more than the cost of using commercial airline or aircraft (including charter service). Such cost justification shall be computed consistent with section 4.4.5.2 of this chapter.	Center Directors	IAOP Review
143	4.3.7	Use of PS or R&D aircraft for passenger transportation purposes, regardless of travel classification category, shall follow the same requirements as used for all other mission management flights, including compliance with 41 C.F.R. 101-37 and OMB Circular A-126, flight request and approval using NASA Form 1653, cost justification on NASA Form 1653 as required, and	Center Directors	IAOP Review

		obtaining travel authorization approvals.		
144	4.3.7	When operated as civil aircraft, maintenance and aircrew standards shall meet those required for retention of FAA airworthiness certification and operation and shall be followed for any NASA mission management flight that carries passengers.	Center Directors	IAOP Review
145	4.3.7	The Certificate of Airworthiness shall be displayed per FAR 91.203 (a) and (b).	Center Directors	IAOP Review
146	4.3.7	Centers shall exercise caution to ensure that aircraft are returned to their FAA-certificated configuration after being modified for Program Support or Research purposes.	Center Directors	IAOP Review
147	4.3.8	Nonofficial travel on NASA mission management flights shall be authorized only when all the following conditions are met: a.) the aircraft is already scheduled for use for an official purpose; b.) such nonofficial travel use does not require a larger aircraft than needed or alteration of flight itinerary for the official purpose; c.) nonofficial travel use results only in minor additional cost to the Government.	Center Directors	IAOP Review
148	4.3.8.1	All nonofficial travelers shall reimburse the U.S. Treasury in accordance with section 4.7.	Center Directors	IAOP Review
149	4.3.9	The Center Director shall certify, in writing, that nonofficial travel on a scheduled flight has met the above conditions.	Center Directors	IAOP Review
150	4.3.9	The Center shall retain this certification for a minimum of two years.	Center Directors	IAOP Review

151	4.4.1	All flights with passengers aboard NASA aircraft assigned to a Center shall be reviewed by the Center Chief Counsel for compliance with 41 C.F.R., part 101-37 and OMB Circular A 126, and approved in advance by the Center Director.	Center Directors	IAOP Review
152	4.4.1	In the case of aircraft assigned to HQ, those flights shall be reviewed by the General Counsel or Deputy General Counsel and approved in advance by the Assistant Administrator for the Office of Infrastructure and Administration.	Assistant Administrator for the Office of Infrastructure and Administration	IAOP Review
153	4.4.1	All flights classified as Other Official Travel that have Senior Federal Officials aboard shall be reviewed by the General Counsel or the Principal Deputy General Counsel and approved in advance by the appropriate NASA HQ or Center approval authority.	Center Directors	IAOP Review
154	4.4.2	Mission management flights also shall be approved in advance, in writing, and generally on a trip-by-trip basis.	Center Directors	IAOP Review
155	4.4.2	The Administrator shall in each instance determine the appropriateness of Required Use flights following a finding of compliance with OMB Circular A-126 requirements by the General Counsel or Principal Deputy General Counsel (Administration and Management).	NASA Administrator	IAOP Review
156	4.4.2	While the Administrator may make a blanket determination that all use of NASA aircraft by certain employees, or travel in specified categories, qualifies as Required Use travel, such determinations shall likewise be in writing, be determined to be	NASA Administrator	IAOP Review

		compliant with OMB Circular A-126 requirements by the General Counsel or Principal Deputy General Counsel (Administration and Management), and set forth the justification for that determination.		
157	4.4.2.1a	The Center Director must complete the following when a member of the flightcrew is also considered a passenger: The justification shall be annotated in the remarks section of NASA Form 1653.	Center Directors	IAOP Review
158	4.4.2.1b	The Center Director must complete the following when a member of the flightcrew is also considered a passenger: The flightcrew member shall have either a NASA travel authorization approved in accordance with NASA directives or a travel authorization approved by another Federal agency or Congressional committee.	Center Directors	IAOP Review
159	4.4.2.1c	The Center Director must complete the following when a member of the flightcrew is also considered a passenger: The flightcrew member shall be listed as a passenger on Form 1653.	Center Chief of Flight Operations	IAOP Review
160	4.4.2.1d	The Center Director must complete the following when a member of the flightcrew is also considered a passenger: If the flightcrew member is a Senior Federal Official, a family member of such Senior Federal Official, or a non-Federal traveler, the flight request shall be reviewed by the General Counsel or Principal Deputy General Counsel.	Center Directors	IAOP Review

161	4.4.3	Flights classified as Mission Required where NASA personnel are traveling to meet mission requirements also shall be reviewed by the General Counsel or Principal Deputy General Counsel (Administration and Management) and approved in advance by the Assistant Administrator for the Office of Infrastructure and Administration.	Assistant Admin-istrator for the Office of Infrastructure and Administration	IAOP Review
162	4.4.3	The Assistant Administrator for the Office of Infrastructure and Administration shall ascertain prior to authorizing the flight that the purpose of the trip is for Mission Required travel as described in section 4.3.2.	Assistant Admin-istrator for the Office of Infrastructure and Administration	IAOP Review
163	4.4.3	Should special emergency situations preclude pre-flight review and approval, immediate action to review and approve the flight shall be taken as soon as practicable following the flight.	Center Directors	IAOP Review
164	4.4.3.1	General Counsel shall review the flight in advance if a Senior Federal Official, families of such Senior Federal Officials, or non-Federal travelers are passengers.	General Counsel	IAOP Review
165	4.4.3.1	Cost justification is not required. Authorization shall be coordinated with the HQ AMD.	Center Directors	IAOP Review
166	4.4.3.1	An MMA Flight Request (NASA Form 1653) is required, and the passenger manifest (NASA Form 1269) shall clearly distinguish aircrew from passengers.	Center Directors	IAOP Review
167	4.4.3.1	The remarks section of the NASA Form 1653 shall indicate what training and for whom the flight is being conducted.	Center Directors	IAOP Review

168	4.4.4	Travel by the following categories of people must be authorized in advance and in writing when traveling aboard mission management flights on Other Official Travel, and their status shall be annotated on the flight request and manifest: a.) Senior Federal Officials; b.) members and families of such Senior Federal Officials; c.) non-Federal travelers.	Center Directors	IAOP Review
169	4.4.4.2a	Authorizations for Other Official Travel flights with Senior Federal Officials, families of such Senior Federal Officials, and non-Federal travelers aboard shall be reviewed in advance on a trip-by-trip basis by the Center Chief Counsel.	Center Directors	IAOP Review
170	4.4.4.2b	Authorizations for Other Official Travel flights with Senior Federal Officials, families of such Senior Federal Officials, and non-Federal travelers aboard shall be approved by the Center Director.	Center Directors	IAOP Review
171	4.4.4.2c	Authorizations for Other Official Travel flights with Senior Federal Officials, families of such Senior Federal Officials, and non-Federal travelers aboard shall be reviewed by the NASA General Counsel or Principal Deputy General Counsel (Administration and Management).	General Counsel	IAOP Review
172	4.4.4.3	At NASA HQ, all flights shall be reviewed by the General Counsel or Principal Deputy General Counsel (Administration and Management) and approved in advance by the Assistant Administrator for the Office of Infrastructure and Administration.	Assistant Admin-istrator for the Office of Infrastructure and Administration	IAOP Review

173	4.4.4.3	Other Official Travel flights on Center-assigned aircraft with no Senior Federal Officials aboard shall be reviewed by the Center Chief Counsel and approved by the Center Director without HQ review.	Center Directors	IAOP Review
174	4.4.5	When the mission management flight is for Other Official Travel, the approving official shall determine that one of the following criteria has been satisfied: a.) no commercial aircraft or airline service is reasonably available in accordance with paragraph 4.3.4.1; b.) the actual cost of mission management flights does not exceed the cost of using commercial airlines or aircraft (including charter service). For such "cost-justified flights," the cost of using commercial airline or aircraft services for justifying the use of Government aircraft shall: (1) be the current Government contract fare or price or the lowest fare or price known to be available for the trip(s) in question; (2) include any differences in the costs of any additional ground or air travel, per diem and miscellaneous travel (e.g., taxis, parking), and lost employee work time (computed at gross hourly costs to the Government, including benefits) between commercial air, charter air service, and Government aircraft. To capture the cost, including fringe benefits, of the employee's lost work time, a multiplier of 1.3285 must be applied to the locality-adjusted hourly salaries of the individual travelers for the additional travel time. The hourly salaries of the travelers are determined by dividing the applicable current	Center Directors	IAOP Review

		average annual salaries that are provided by the NASA Workforce Web site by 2,087. Selecting the "Average Salaries by Occupation and Center (table)" view will provide access to the necessary data to determine average salaries by occupation and grade for each Center. While Federal salary data can be found at many other locations, the NASA Workforce Web site is the official NASA source. Travel time is defined as the time required to travel from the office or home until arrival at the business location or hotel, whichever is earliest.		
175	4.5.1.1	The Assistant Administrator for the Office of Infrastructure and Administration shall approve policies and other matters involving NASA mission management flights (except those specifically outlined above) and ensure that the number of NASA-owned aircraft and their capacity to carry passengers and cargo does not exceed the level necessary to meet NASA's mission requirements.	Assistant Administrator for the Office of Infrastructure and Administration	IAOP Review
176	4.5.1.2	The Assistant Administrator for the Office of Infrastructure and Administration shall coordinate acquisition, assignment, or disposition of aircraft whose primary purpose is the conduct of mission management flights with the appropriate Associate Administrators and Center Directors in accordance with OMB Circular A-76.	Assistant Administrator for the Office of Infrastructure and Administration	IAOP Review
177	4.5.1.3	The Assistant Administrator for the Office of Infrastructure and Administration shall annually review mission management flight requirements, use, and associated costs, including	Assistant Administrator for the Office of Infrastructure and Administration	IAOP Review

		variable cost rates for each aircraft used to conduct mission management flights.		
178	4.5.1.4	The Assistant Administrator for the Office of Infrastructure and Administration shall periodically review the need for all NASA aircraft whose primary purpose is mission management flight operations, and the cost effectiveness of NASA mission management flight operations in accordance with the requirements of OMB Circular A-76. Each such review of NASA-owned aircraft whose primary purpose is mission management flight operations shall be submitted to the General Services Administration when completed and to Office of Management and Budget with NASA's next budget submission.	(This is actually two requirements in one) Assistant Administrator for the Office of Infrastructure and Administration	IAOP Review
179	4.5.1.5	The Assistant Administrator for the Office of Infrastructure and Administration shall ensure that current (by fiscal year) variable cost rate for each aircraft utilized to conduct mission management flights is used by all NASA officials who operate and account for NASA mission management flights to calculate the flight-by-flight cost justification required by OMB Circular A-126.	Assistant Administrator for the Office of Infrastructure and Administration	IAOP Review
180	4.5.2.1	Center Directors shall ensure that aircraft are used properly and that the functions, including contract functions, performed by their aircraft comply, at a minimum, with NASA, FAA, OMB, and other Federal requirements, policies, and procedures.	Center Directors	IAOP Review

181	4.5.2.2	Center Directors shall ensure compliance with 41 C.F.R., part 101-37 and OMB Circular A-126.	Center Directors	IAOP Review
182	4.5.2.3	Center Directors shall approve the use of their assigned aircraft to conduct mission management flights where passenger transport is not the primary mission.	Center Directors	IAOP Review
183	4.5.2.4	Center Directors shall designate aircrew to conduct mission management flights and ensuring continuing compliance with all governing regulations.	Center Directors	IAOP Review
184	4.5.2.5	Center Directors shall establish variable cost rates for aircraft under their control that are, or may be, used for passenger transportation. The rate will be developed using OMB Circular A-126, attachments A and B, incorporating the most recent 12 months of historical cost data available and shall be used to determine the cost justification for MMA flight requests. The rate shall be reported to the HQ AMD not later than September 15 of each year and cannot be used until approved by that office.	Center Directors (three requirements)	IAOP Review
185	4.5.2.6	Center Directors shall annually review and document the Center's continuing need for aircraft whose primary purpose is the transport of passengers and the cost-effectiveness of such aircraft operations, as required by OMB Circular A-126 and reflected in the NASA Financial Management Requirements and guidance from the HQ AMD. Content of this review must include, in narrative format, a comparison of the past years' use with future requirements. Upon completion of the annual review, a copy	Center Directors	IAOP Review

		shall be forwarded to the HQ AMD not later than October 31 of each year.		
186	4.5.2.6	When Government ownership of an aircraft is no longer justified, Center Directors shall identify such aircraft to the Assistant Administrator for Infrastructure and Administration for reassignment or disposal.	Assistant Administrator for the Office of Infrastructure and Administration	IAOP Review
187	4.5.2.7	Center Directors shall submit a monthly report of mission management flight data to the HQ AMD to arrive not later than the 20th of the next month.	Center Directors	IAOP Review
188	4.5.2.7	This mission management flight data submission must include all available mission management flight and request records for NASA aircraft under the control of the Center Director and must reflect every flight flown by aircraft that has been, or may be, approved to transport passengers regardless of whether the passengers were aboard that flight. At a minimum, the following shall be provided: a.) NASA Form 1653, Mission Management Flight Request; b.) NASA Form 1269, Flight Itinerary and Manifest; c.) Cost Calculation Spreadsheet; d.) NASA Aircraft Management Information System (NAMIS) Form 1672, Aircraft Log.	Center Directors	IAOP Review
189	4.5.2.8	Certification documentation demonstrating compliance with paragraph 4.3.5 for any nonofficial travel use and documentation of the required reimbursement described in section 4.7 shall be included in the monthly mission management flight data submission. This responsibility may be delegated.	Center Directors	IAOP Review

190	4.5.4.2a	For subpanels, the IAOP chair will ensure the following: Subpanel members shall be Chiefs of Aircraft Operations and Chiefs of Aircraft Maintenance or their designees, as well as a representative from the HQ AMD who shall act as permanent executive secretary.	IAOP Chairman	IAOP Review
191	4.5.4.2b	For subpanels, the IAOP chair will ensure the following: Subpanels shall be convened at least annually in formal meetings; however, the subpanels shall act as standing committees subject to call by the chairperson to review urgent business. Informal meetings may be conducted by teleconference.	IAOP Chairman	IAOP Review
192	4.5.4.2c	For subpanels, the IAOP chair will ensure the following: Subpanels, with IAOP chairperson concurrence, shall forward their recommendations through the HQ AMD to the Assistant Administrator for Infrastructure and Administration for final approval. Headquarters-approved recommendations shall be considered directive in nature and shall be reflected in NASA policy documents.	IAOP Chairman (three requirements)	IAOP Review
193	4.5.5.1	All crewmembers shall comply with the provisions set forth in this NPR and with FAA and OEM publications for their aircraft and other applicable directives, regulations, and instructions.	Center Directors	IAOP Review
194	4.5.6	A fully qualified pilot shall be designated as PIC and charged with the responsibility of conducting each NASA mission management flight.	Pilot in Command	IAOP Review

195	4.6.1.4	Records of all mission management flight operations shall be retained for at least two years and must include, at a minimum: a.) the tail number of the plane used; b.) the date(s) used; c.) the name(s) of the pilot(s) and flightcrew; d.) the purpose(s) of the flight; e.) the route(s) flown; f.) the names and status of all passengers on all legs of the mission.	Center Directors	IAOP Review
196	4.6.2	Center Directors shall ensure strict compliance with the following reporting requirements: a.) monthly submission of mission management flight data to the HQ AMD as required in paragraph 4.5.2.7; b.) annually reviewing and documenting the Center's continuing need for aircraft whose primary purpose is the transport of passengers and the cost-effectiveness of such aircraft operations, as required by OMB Circular A-126 and reflected in the NASA FMR and guidance from the HQ AMD. Content of this review shall include, in narrative format, a comparison of the past years' use with future requirements.	Center Directors	IAOP Review
197	4.6.2.2	Upon completion of the annual review, a copy shall be forwarded to the HQ AMD not later than October 31 of each year.	Center Directors	IAOP Review
198	4.6.2.3	Center Directors shall ensure the establishment of variable cost rates for each fiscal year for aircraft under their control that are, or may be, used for passenger transportation. This rate is to be used to determine cost justification for MMA flight requests and shall be reported to the HQ AMD not later than September 15 of each year.	Center Directors	IAOP Review

199	4.7.1	Reimbursement for nonofficial travel use shall be made in advance of the flight for travel on FAA aircraft, consistent with current FAA procedures.	Center Directors	IAOP Review
200	4.7.2	Reimbursement for nonofficial travel use of NASA-owned or -controlled aircraft shall be made in advance of the flight.	Center Directors	IAOP Review
201	4.7.3	Any flight involving nonofficial travelers shall require notification to the HQ AMD prior to the flight to ensure application of the Agency-wide procedures for reimbursement.	Center Directors	IAOP Review
202	4.8.2	R&D or PS aircraft used to conduct mission management flights shall meet the FAA certification standards required of mission management flights.	Center Directors	IAOP Review
203	4.8.3	Airworthiness of NASA mission management flights shall, at a minimum, meet the standards set forth in the Federal Aviation Regulations for similar business-type aircraft.	Center Directors	IAOP Review
204	4.8.3	Aircraft whose primary or secondary purpose is the transport of passengers shall be maintained as required for retention of FAA airworthiness certification.	Center Directors	IAOP Review
205	4.8.4	The cost of operation and the utilization of mission management flights shall be reported in accordance with Financial Management Manual 9353-6 (RCS-10-0000-00271) and OMB Circular A-126.	Center Directors	IAOP Review
206	4.9.1	NASA-owned and -controlled aircraft, including lease and charter, whose primary purpose is to meet mission requirements for research or program support, are public aircraft and are not authorized to carry passengers, even if the classification of the	Center Directors	IAOP Review

		flight is Mission Required, without written approval from the Assistant Administrator for Infrastructure and Administration prior to such use. Approval shall be coordinated with the HQ AMD.		
207	4.9.1	The use of a NASA R&D or PS aircraft to provide passenger transportation shall be restricted to circumstances where such use does not conflict with program support or research functions.	Center Directors	IAOP Review
208	4.9.1.1	Centers shall document the justification for and approval of each flight used for mission management purposes and retain the documentation for two years.	Center Directors	IAOP Review
209	4.10.1	When deviations from this NPR are necessary, Center Directors shall submit requests for waivers to the Assistant Administrator for Infrastructure and Administration.	Center Directors	IAOP Review
210	4.10.1	Written approval shall be obtained before implementing procedures that are less restrictive than those contained in this NPR.	Center Directors	IAOP Review
211	4.11.2	A training file shall be maintained for each flightcrew member.	Center Chief of Flight Operations	IAOP Review
212	4.11.3	Pilots of MMA shall possess a current FAA First Class Medical Certificate.	Center Chief of Flight Operations	IAOP Review
213	4.11.3	Flight Maintenance Technicians shall possess a valid FAA Third Class Medical Certificate or NASA medical certificate issued within the past 12 months by a NASA-approved medical examiner.	Center Chief of Flight Operations	IAOP Review

214	4.11.4	PICs/SICs shall possess an FAA Airline Transport Pilot (ATP) Certificate with appropriate category, class, and type rating in the aircraft assigned.	Center Chief of Flight Operations	IAOP Review
215	4.11.4	To be designated an aircraft commander, the pilot shall meet the following minimum flight experience requirements: a.) 2,500 pilot hours (500 hours multiengine); b.) 100 pilot hours in type.	Center Directors	IAOP Review
216	4.11.5	Instructor pilots shall be selected by the Center Chief of Flight Operations from highly qualified PICs who have demonstrated the skill, maturity, and temperament to perform instructor duties.	Center Chief of Flight Operations	IAOP Review
217	4.11.7	Flight maintenance technicians shall possess an FAA A&P Certificate.	Center Chief of Flight Operations	IAOP Review
218	4.13.1	Each primary crewmember shall receive basic survival training on a one-time basis.	Center Chief of Flight Operations	IAOP Review
219	4.13.1	Additional survival training shall be required by appropriate Center management for those crewmembers engaged in frequent over-water or remote-area flights.	Center Chief of Flight Operations	IAOP Review
220	4.13.1	Newly assigned personnel with no previous survival training shall complete this requirement within 12 months of being assigned to flightcrew duties.	Center Chief of Flight Operations	IAOP Review
221	4.13.1	Pilots shall not be assigned as PIC until this requirement has been met.	Center Chief of Flight Operations	IAOP Review
222	4.13.2	Prior to initial designation, primary crewmembers shall receive instruction in the physiological aspects of high-altitude flight including altitude chamber indoctrination.	Center Chief of Flight Operations	IAOP Review

223	4.13.2	Refresher training academics shall be accomplished every five years.	Center Chief of Flight Operations	IAOP Review
224	4.13.3	Prior to initial designation and annually thereafter, each crewmember shall receive emergency egress training on each type of aircraft assigned.	Center Chief of Flight Operations	IAOP Review
225	4.13.3	Training shall include instruction on the location and operation of normal and emergency exits and cabin emergency equipment, such as fire extinguishers and life vests.	Center Chief of Flight Operations	IAOP Review
226	4.13.4	Each primary crewmember shall complete an approved formal course of instruction in the type aircraft to be flown, including a study of the systems and procedures applicable to the individual's crew position.	Center Chief of Flight Operations	IAOP Review
227	4.13.5	A formal systems training course is required every six months for pilots and every 18 months for flight maintenance technicians.	Center Chief of Flight Operations	IAOP Review
228	4.13.6	Maintenance Technicians shall attend refresher training that address changes to aircraft systems, test equipment, or critical troubleshooting and repair techniques every 24 months.	Center Chief of Flight Operations	IAOP Review
229	4.14.1	Flight training shall be conducted under the supervision of a NASA-designated flight instructor pilot or an FAA-certified flight instructor, either in an approved simulator or in an aircraft.	Center Chief of Flight Operations	IAOP Review
230	4.14.2	Prior to initial designation, each pilot shall receive a minimum of ten hours of flight training, eight hours of which may be conducted in a simulator.	Center Chief of Flight Operations	IAOP Review

231	4.14.3	In each six-month period, pilots shall receive a minimum of six hours of flight or simulator training.	Center Chief of Flight Operations	IAOP Review
232	4.14.4	Prior to initial designation, each maintenance technician shall receive training in such areas as traffic awareness and "see-and-avoid" techniques, aircraft servicing, weight and balance, and passenger care.	Center Chief of Flight Operations	IAOP Review
233	4.15	Only crewmembers who have completed their required training shall be used as required crewmembers on any passenger missions.	Center Chief of Flight Operations	IAOP Review
234	4.16.1	In the interest of flight safety and to ensure that all crewmembers have the opportunity to exercise their aeronautical skills and thereby maintain the proficiency level for which they have been trained, the minimum currency requirements set forth in table 4.2 shall be met.	Center Chief of Flight Operations	IAOP Review
235	4.16.2	To maintain currency, flight maintenance technicians shall have flown at least three passenger missions each calendar quarter, or they must be accompanied by a current flight maintenance technician.	Center Chief of Flight Operations	IAOP Review
236	4.17.1	A pilot at the controls who does not meet the 90-day total hour requirements, but is otherwise current, shall increase all instrument approach minimums by 200 feet and 1/2-mile visibility (or the Runway Visual Range equivalent).	Center Chief of Flight Operations	IAOP Review
237	4.17.3	At the discretion of the Chief Pilot, pilots flying multiple types of aircraft who have met the "all types" requirements may satisfy the "in type" currency requirement by flying a training flight with a flight instructor. This	Center Chief of Flight Operations	IAOP Review

		training flight shall include a minimum of two instrument approaches, three takeoffs, and three landings.		
238	4.17.5	Lapse in qualification greater than 90 days requires retraining of at least six hours dedicated flight or simulator training as determined by the Center Chief of Flight Operations and requires a formal flight evaluation by an instructor pilot.	Center Chief of Flight Operations	IAOP Review
239	4.18.1	The intent of the NASA flightcrew evaluation program is to objectively evaluate aircrew performance and, thereby, measure the effectiveness of the training program. Designated Instructor Pilots shall administer all flight checks.	Center Chief of Flight Operations	IAOP Review
240	4.18.1	An IP shall be designated for all flights in which instruction or evaluation is planned.	Center Chief of Flight Operations	IAOP Review
241	4.18.2	Prior to being designated in their crew position, and annually thereafter, pilots shall complete a proficiency evaluation flight conducted by a NASA-designated IP or an FAA-designated flight IP.	Center Chief of Flight Operations	IAOP Review
242	4.18.2	Pilots with overdue proficiency checks shall be scheduled only on training flights (i.e., non-passenger flights) with an instructor pilot.	Center Chief of Flight Operations	IAOP Review
243	4.18.3	Prior to being designated an aircraft commander and annually thereafter, pilots shall complete a line evaluation flight conducted by an IP.	Center Chief of Flight Operations	IAOP Review
244	4.18.3	Pilots with overdue line checks shall not be scheduled as a PIC until a check is completed.	Center Chief of Flight Operations	IAOP Review

245	4.18.4	Flight checks conducted by NASA IPs shall be recorded on NASA Form 1615 or Center equivalent, reviewed by the Center Chief of Flight Operations, and filed in the individual's training file.	Center Chief of Flight Operations	IAOP Review
246	4.19.1a	In addition to approving the use of MMA, the Assistant Administrator for the Office of Infrastructure and Administration and Center Directors shall ensure that the most cost-effective MMA is used to satisfy approved requirements. Exceptions to this usage shall be documented in writing.	Center Directors	IAOP Review
247	4.19.1b	In addition to approving the use of MMA, the Assistant Administrator for the Office of Infrastructure and Administration and Center Directors shall coordinate trip itineraries and requirements with other NASA activities that could benefit from the use of available seats on each trip.	Center Directors	IAOP Review
248	4.20.1	All personnel scheduled as primary flight crewmembers on NASA MMA passenger flights shall be trained and qualified in accordance with paragraphs 5.9 through 5.15 of this NPR.	Center Chief of Flight Operations	IAOP Review
249	4.20.1	Crew assignment, including identification of PIC, shall be designated in writing for each flight.	Center Chief of Flight Operations	IAOP Review
250	4.20.2	No aircraft carrying passengers shall be operated with less than the minimum basic crew specified below.	Center Chief of Flight Operations	IAOP Review
251	4.21.2	Basic crew duty time shall not be scheduled to exceed 14 consecutive hours except as set forth below.	Center Chief of Flight Operations	IAOP Review

252	4.21.2.2	Augmented crew duty time shall not be scheduled to exceed 18 consecutive hours.	Center Chief of Flight Operations	IAOP Review
253	4.21.2.2	Flights requiring augmentation shall be approved by the Center Chief of Flight Operations and documented and maintained on file for a period of 12 months.	Center Chief of Flight Operations	IAOP Review
254	4.21.2.3	Relief crews shall be pre-positioned if the mission schedule cannot be supported within the duty time limitations specified for a single or augmented crew.	Center Chief of Flight Operations	IAOP Review
255	4.22.2.1	Crew rest shall normally provide at least 10 consecutive hours free of all official duties.	Center Chief of Flight Operations	IAOP Review
256	4.22.2.2	At en route stops, crew rest shall not commence until one hour after termination of the mission in order to allow for necessary post-flight duties.	Center Chief of Flight Operations	IAOP Review
257	4.22.2.3	The crew rest period shall end one hour prior to the crew beginning official duties in preparation for departure, normally at least one hour prior to scheduled takeoff time.	Center Chief of Flight Operations	IAOP Review
258	4.22.2.4	Approvals for reduced crew rest shall be limited to one occurrence per crewmember during any seven-day period.	Center Chief of Flight Operations	IAOP Review
259	4.22.2.4	Such approvals shall be documented and maintained on file for a period of 12 months.	Center Chief of Flight Operations	IAOP Review
260	4.23.1	Flightcrew members shall not be scheduled, nor permitted, to function as members of MMA flightcrews, if their total professional flying time exceeds the flight hours shown in table 4-3.	Center Chief of Flight Operations	IAOP Review
261	4.24	Hazardous material as defined in 49 C.F.R. 171.8 shall not be transported aboard NASA MMA.	Center Directors	IAOP Review

262	4.24	Cargo to be shipped shall be routed through the Center's transportation office before acceptance or, if en route, cargo normally only shall be accepted from a certified shipper or freight forwarding agency.	Center Directors	IAOP Review
263	4.25	During all critical flight operations, cockpit activities and conversation shall be limited to those involved with the direct operation of the aircraft.	Pilot in Command	IAOP Review
264	4.26	Before departure, the PIC shall brief the crew on all essential information concerning the flight including weather, restrictions, and the duties and responsibilities of each flightcrew member.	Pilot in Command	IAOP Review
265	4.27.1	In those instances when, in the determination of the PIC, an extenuating circumstance requires loading or unloading passengers or cargo with an engine running, the following minimum precautions will be followed: a.) only the engine on the opposite side of the aircraft from the loading door shall be operating and shall be operated at as low a power setting as practical; b.) a flightcrew member shall be positioned on the ground to ensure that passengers do not approach close to an operating engine or windmilling propeller.	Pilot in Command	IAOP Review
266	4.27.2	The PIC shall ensure that all passengers have been briefed on the Disclosure for Persons Flying Aboard Federal Government Aircraft (see appendix B-2).	Pilot in Command	IAOP Review
267	4.27.3	Thorough flight planning is essential to the safe and efficient conduct of MMA passenger flights. A flight plan shall be filed for each flight.	Pilot in Command	IAOP Review

268	4.27.3	Passenger flights shall be operated under instrument flight rules and, to the maximum extent possible, in controlled airspace; however, daylight flights of less than 100 nautical miles may be operated under visual flight rules if weather conditions permit.	Pilot in Command	IAOP Review
269	4.27.4	Considering weather forecasts and any known en route delays, the minimum amount of useable fuel required at takeoff shall be sufficient to do the following: a.) complete the flight to the destination airport; b.) fly from that airport to the alternate airport, if required; c.) fly after that for one additional hour using cruise fuel consumption at 10,000 feet mean sea level.	Pilot in Command	IAOP Review
270	4.27.5	Prior to takeoff, the PIC shall receive a thorough weather briefing concerning current weather and forecasts for the proposed route, destination, and alternate destination.	Pilot in Command	IAOP Review
271	4.27.5.1	Weather minimums for takeoff shall be not less than landing minimums unless a takeoff alternate is available.	Pilot in Command	IAOP Review
272	4.27.5.2	All flights shall be planned to circumnavigate areas of thunderstorm activity.	Pilot in Command	IAOP Review
273	4.27.5.3	Airport weather minimums shall meet or exceed the requirements of FAR part 91.	Pilot in Command	IAOP Review
274	4.27.5.4	When the pilot has less than 100 hours PIC experience in the type (make and model) aircraft being operated, the minimum descent altitude or the Decision Altitude and visibility landing minimums shall be increased by 200 feet and 1/2 mile (or the RVR equivalent) for all instrument approaches	Pilot in Command	IAOP Review

		conducted by that pilot.		
275	4.27.5.4	In no case shall the landing minimums be less than a 400-foot ceiling and one-mile visibility.	Pilot in Command	IAOP Review
276	4.27.5.4	Takeoffs shall not be made if the airfield is below these adjusted landing minimums.	Pilot in Command	IAOP Review
277	4.27.6	Prior to activating any aircraft system, aircraft maintenance forms shall be reviewed and evaluated.	Pilot in Command	IAOP Review
278	4.27.6	Prior to flight, the PIC shall accept the aircraft by signing the form. DoD aircraft forms, Naval Aviation Logistics Command Management Information System (NALCOMIS), or equivalent forms may be used as a substitute for specific NASA forms.	Pilot in Command	IAOP Review
279	4.27.7	A copy of the current weight and balance data shall be carried aboard each MMA.	Pilot in Command	IAOP Review
280	4.28.1	On departure, navigational aids shall be set up to aid in a possible expedited emergency return, as well as to aid in establishing the initial en route course.	Pilot in Command	IAOP Review
281	4.28.2	If installed and operative, the CVR and FDR shall be turned on during the entire flight.	Pilot in Command	IAOP Review
282	4.28.2	Should an incident occur, the CVR and FDR power shall be removed and appropriate circuit breakers pulled following completion of the after-shutdown checklist.	Pilot in Command	IAOP Review
283	4.28.3	EGPWS/TAWS shall be used on all flights.	Pilot in Command	IAOP Review
284	4.28.3	Immediate and appropriate action shall be taken in response to all valid EGPWS/TAWS warning calls.	Pilot in Command	IAOP Review

285	4.28.4	Landing lights shall be used during all takeoffs and landings and when operating near airports or in high-density traffic areas.	Pilot in Command	IAOP Review
286	4.28.6	Flight Maintenance Technicians shall remain at their duty station throughout the climb and descent.	Pilot in Command	IAOP Review
287	4.28.7	TCAS/TCAD resolution advisories shall be followed.	Pilot in Command	IAOP Review
288	4.29.1	In-flight delays and readily discernible abnormal conditions shall be explained to the passengers.	Pilot in Command	IAOP Review
289	4.29.1.1	The PIC shall require that all passengers and crewmembers have safety belts securely fastened for taxiing, takeoffs, landings, and before entering an area of in-flight turbulence.	Pilot in Command	IAOP Review
290	4.29.1.2	Passengers shall not be admitted to the flight deck during "sterile cockpit" phases of flight.	Pilot in Command	IAOP Review
291	4.29.2	The PIC shall notify ATC of the aircraft "minimum fuel" status at any time the fuel supply has reached a quantity where, upon reaching destination, little or no delay can be accepted. In no case may this quantity be less than that specified in table 4-6.	Pilot in Command	IAOP Review
292	4.29.2	If fuel remaining indicates a need for traffic priority to ensure a safe landing, the PIC shall formally declare an emergency due to low fuel and shall report fuel remaining in minutes.	Pilot in Command	IAOP Review
293	4.29.3	When an emergency or in-flight difficulty arises, the crew shall complete the checklists and report the nature and extent of the difficulty, intentions, and assistance required to the controlling ground agency.	Pilot in Command	IAOP Review

294	4.29.3	In the event of an engine failure or shutdown, the aircraft shall land at the nearest suitable airport at which a safe landing can be made.	Pilot in Command	IAOP Review
295	4.30.1	During instrument arrivals, all available navigational aids shall be used. When available, precision approach guidance (Instrument Landing System or Precision Approach Radar) will be used for all night arrivals except for specific events during training flights.	Pilot in Command	IAOP Review
296	4.30.2	Pilots operating aircraft shall land the aircraft only when the flight visibility is equal to or greater than the visibility prescribed in the standard instrument approach procedure being used.	Pilot in Command	IAOP Review
297	4.30.4	The briefing will include a review of the procedure to be flown, including key altitudes and restrictions, as well as specific crew duties during the approach and landing.	Pilot in Command	IAOP Review
298	4.30.5a	During approach, the pilot flying the approach shall announce his/her progress and intentions periodically.	Pilot in Command	IAOP Review
299	4.30.5b	During approach, the pilot monitoring shall observe the approach and provide a continual cross-check of the navigational aids, instruments, air traffic control instructions, and approach procedures.	Pilot in Command	IAOP Review
300	4.30.5c	During approach, any deviations from the prescribed procedure shall immediately be brought to the attention of the pilot flying.	Pilot in Command	IAOP Review
301	4.30.5d	During approach, the pilot monitoring shall call out "1,000 feet above" and "100 feet above" all key altitudes, as well as "minimums" upon reaching the	Pilot in Command	IAOP Review

		Missed Approach position.		
302	4.30.5e	During approach, when the runway is in sight, the pilot monitoring shall state, "runway in sight."	Pilot in Command	IAOP Review
303	4.30.5f	During approach, if the runway is not in sight when the aircraft reaches the Missed Approach point, the pilot monitoring shall state, "go around."	Pilot in Command	IAOP Review
304	4.30.6	To prevent excessive loss of altitude in the event of an autopilot failure, the pilot directing the aircraft shall maintain flight control contact throughout the final portion of an automatic coupler approach. Full manual control shall be assumed at or above published minimum altitude.	Pilot in Command	IAOP Review
305	4.31.1	On completion of the flight, the PIC shall ensure the flight plan is closed with the appropriate facility.	Pilot in Command	IAOP Review
306	4.31.2	The PIC shall take prudent measures to secure and protect the aircraft at en route stops.	Pilot in Command	IAOP Review
307	4.31.2	State Department Advisories and the DoD Foreign Clearance Guide shall be consulted for out-of-continental United States operations.	Pilot in Command	IAOP Review
308	4.31.3	All unusual events (e.g., overweight or hard landings, lightning or bird strike, static discharge, or flight through hail or severe turbulence) will be recorded in the aircraft log.	Pilot in Command	IAOP Review
309	4.32.1	Aircraft flight manual data shall be used to ensure adequate takeoff, climb, approach, and landing performance is available for the actual conditions encountered.	Pilot in Command	IAOP Review

310	4.32.2	Headquarters waiver is required for takeoffs from or landings on runways of lesser length runways.	Pilot in Command	IAOP Review
311	4.32.3	For normal operations, airfields shall be considered below minimums for takeoff and landing when winds, including gusts, are greater than those established in table 4.5.	Pilot in Command	IAOP Review
312	4.32.4	All flights shall be planned to have no less than the minimum fuel indicated in table 4.6 available at touchdown on the final landing.	Pilot in Command	IAOP Review
313	5.1.2	All UASs shall be operated to meet the requirements of this NPR.	Center Director	IAOP Review
314	5.1.3	Any UAS operated on behalf of NASA that operates within the National Airspace shall be piloted by an individual who is either a NASA pilot or holds an FAA Pilot's License.	Center Director	IAOP Review
315	5.1.4	Center Directors shall establish procedures to ensure that all UAS flights are properly approved and documented.	Center Director	IAOP Review
316	5.1.4	Center Directors also shall ensure that UAS flightcrews and operations receive direct oversight by the Center Flight Operations Office or through another Center with a Flight Operations Department.	Center Director	IAOP Review
317	5.2.1.3	A letter of agreement with local air facilities shall be completed to ensure that proper coordination of support requirements is understood and agreed to.	Center Director	IAOP Review
318	5.2.2	The UAS planner shall notify the U.S. Embassy or consulate in the HN of UAS operations within their represented country.	Center Director	IAOP Review

319	5.3.5	Flight planning for routes that afford little or no time to avert the response to an erroneous data entry that could lead to a significant mishap (Class C or higher) shall have independent review both before loading in the mission computer and after upload on the UAS is complete.	Center Director	IAOP Review
320	5.3.6.2	Upon notification of an in-flight emergency, emergency procedures shall be performed by the UAS pilot in accordance with the UAS operations manual.	Center Chief of Flight Operations	IAOP Review
321	5.4.1	A flight brief that includes the flightcrew, a program representative, and a maintenance representative shall be conducted prior to all flights. Briefs provide specific information in accordance with UAS SOPs. Briefs will include the following: a.) weather update; b.) program brief; c.) system update; d.) emergency divert airfields; e.) emergency procedures and terminology; f.) mission profile.	Center Chief of Flight Operations	IAOP Review
322	5.4.2	Systems checks shall include an independent means to verify waypoints entered into a navigational system prior to takeoff.	Pilot in Command	IAOP Review
323	5.4.3	The UAS recovery checklist shall be adhered to in accordance with the operations manual.	Pilot in Command	IAOP Review
324	5.5.1	UAS flightcrew members shall become qualified in accordance with written standards set forth in Center-developed criteria.	Center Director	IAOP Review
325	5.5.1	Center Chiefs of Flight Operations, with the concurrence of the Center Director, shall designate a UAS pilot for a specific UAS aircraft type.	Center Director	IAOP Review

326	5.5.1	The Chief of Flight Operations shall ensure that each UAS flightcrew possesses an adequate level of training and experience to perform the duties of the designated positions.	Center Chief of Flight Operations	IAOP Review
327	5.5.2	UAS pilots shall receive qualification training under direction of a military, civilian, or NASA UAS instructor pilot.	Center Directors	IAOP Review
328	5.5.2.2	An initial UAS checkout training program shall be developed by each Center and documented in the UAS flightcrew flight record file with the approval of the Chief, Flight Operations Branch.	Center Chief of Flight Operations	IAOP Review
329	5.5.2.3	Existing UAS simulators and UAS aircraft of a similar nature will be used to train pilots prior to flying a UAS research vehicle.	Center Chief of Flight Operations	IAOP Review
330	5.5.2.4	Training for all members of the UAS flightcrew shall include crew resource management training.	Center Chief of Flight Operations	IAOP Review
331	5.5.3	A review of UAS pilot and crew qualifications shall be made prior to flight assignment to ensure that prerequisites for the intended mission are met.	Center Chief of Flight Operations	IAOP Review
332	5.5.3	The Center Chief of Flight Operations shall designate the crewmembers for UASs that are under the Center's purview.	Center Director	IAOP Review
333	5.6.2	The Airworthiness and Flight Safety Review Board shall participate in or, at their option, conduct reviews to establish the airworthiness and evaluate the safety of flight operations.	Center Director	IAOP Review
334	5.6.2.1	The following topics shall be addressed by a NASA AFSRB to assess the risks associated with a UAS flight program: a.) general outline of major UASs; b.) communication links and frequency management plan; c.)	Center Directors	IAOP Review

		flight control system and configuration control procedures; d.) backup systems and procedures; e.) flight terminations systems including ground abort.		
335	5.6.3	The program/project manager shall limit the assessed collective risk associated with aerospace vehicle operation and ensure that the probability of doing harm to a member of the general public is not greater than the criteria established by NPR 8715.5, Range Safety Program.	Center Directors	IAOP Review
336	6.2.2	Center Directors shall ensure that the Center ASO is granted formal access to senior management when safety issues cannot be resolved at a lower level in the flight organization.	Center Directors	IAOP Review
337	6.2.5	The Headquarters Aviation Safety Manager within the Office of Safety and Mission Assurance shall be a qualified ASO.	Chief of Safety and Mission Assurance	
338	6.2.5	The ASM shall provide safety and mission assurance oversight for Agency aviation activities.	Chief of Safety and Mission Assurance	
339	6.2.5a	The ASM shall coordinate with AMD regarding OSMA requirements affecting aviation safety or reporting.	Chief of Safety and Mission Assurance	
340	6.2.5b	The ASM shall identify aviation safety issues through mishap investigation and analysis.	Chief of Safety and Mission Assurance	
341	6.2.5c	The ASM shall participate in the annual NASA ASO conference.	Chief of Safety and Mission Assurance	
342	6.2.5d	The ASM shall monitor the implementation of the Agency's Aviation Safety Program.	Chief of Safety and Mission Assurance	
343	6.2.5e	The ASM shall attend selected program flight readiness and safety reviews.	Chief of Safety and Mission Assurance	

344	6.2.5f	The ASM shall serve as an advisor to the IAOP and participate in IAOP activities, including meetings, reviews, and subpanel activities.	Chief of Safety and Mission Assurance	
345	6.2.5g	The ASM shall conduct aviation safety staff assistance visits and reviews.	Chief of Safety and Mission Assurance	
346	6.2.5h	The ASM shall coordinate recommendations from mishap investigations that require corrective action from sources or agencies outside of NASA.	Chief of Safety and Mission Assurance	
347	6.2.5i	The ASM shall participate in selected aircraft flight operations.	Chief of Safety and Mission Assurance	
348	6.2.7	The ASO subpanel chair is responsible for briefing safety issues and concerns of the Centers to the IAOP panel, and shall schedule and conduct subpanel meetings and teleconferences.	IAOP Aviation Safety Officer Subpanel Chairman	
349	6.2.8	The Center Chief of Flight Operations, with the concurrence of the Center Director, shall appoint an ASO.	Center Directors	IAOP Review
350	6.2.9.1	The ASO shall hold qualification as a NASA PIC in type.	Center Directors	IAOP Review
351	6.2.9.2	The ASO, within one year of appointment, shall complete a two-week course in aviation safety program management.	Center Directors	IAOP Review
352	6.2.9.2	Within two years of appointment, the ASO shall have graduated from a recognized Military Aviation/Flight Safety Officer Course or an Academic Aviation Safety Certificate Program (of at least six weeks' duration).	Center Directors	IAOP Review
353	6.2.10.1	Each Center shall establish a continuing education program to ensure that each ASO maintains adequate knowledge to discharge the duties of the office.	Center Directors	IAOP Review

354	6.2.10.1	To maintain familiarity with the latest aviation safety principles as a NASA ASO, the ASO shall be actively engaged in the Center's aviation operations program and complete 40 hours of continuing education in ASO course elements within 24 calendar months.	Center Directors	IAOP Review
355	6.3.1	The Center Aviation Safety Program shall be documented in a single comprehensive manual.	Center Directors	IAOP Review
356	6.3.1.1	The working group is chaired by the ASO, shall meet at least semiannually, and reports to the Chief of Flight Operations.	Center Directors	IAOP Review
357	6.3.1.2	Headquarters AMD, together with independent oversight from the Office of Safety and Mission Assurance, shall conduct an aviation safety review of each Center biennially utilizing the IAOP Review Program.	Aircraft Management Division	IAOP Review
358	6.3.1.2	Centers conducting flight operations shall perform an independent flight operations review during the alternate year when an IAOP review is not scheduled.	Center Directors	IAOP Review
359	6.3.1.3	The Center aviation safety program shall establish a procedure for collecting hazards/anomalies/Close Calls data from personnel.	Center Directors	IAOP Review
360	6.3.1.3	Centers shall follow the Close Call reporting requirements contained in NPR 8621.1.	Center Directors	IAOP Review
361	6.3.1.4	The Chief of Flight Operations with the assistance of the ASO shall conduct a Government/industry-recognized cultural survey, assessment, or workshop within aircraft operations every two years or within six months of hiring a new Chief of Aircraft Operations.	Chief of Flight Operations	IAOP Review

362	6.3.1.5	ASOs shall conduct safety training for operations and maintenance personnel.	Aviation Safety Officers	IAOP Review
363	6.3.1.5	The ASO shall establish a process to ensure that topics covered are disseminated to those who could not attend.	Aviation Safety Officers	IAOP Review
364	6.3.1.6	Centers shall establish an Aviation Safety Award program.	Center Directors	IAOP Review
365	6.3.1.7	The ASO shall ensure that risk assessment and hazard analysis procedures are established. These procedures must address risks, hazards, and mitigation methods associated with aircraft modifications and research flights in accordance with chapter 2 of NPR 8715.3, NASA General Safety Program Requirements.	Aviation Safety Officers	IAOP Review
366	6.3.1.8	The ASO shall ensure that project and program safety plans are subject to a review process.	Aviation Safety Officers	IAOP Review
367	6.3.1.8	Once approved, the ASO shall ensure the plans are disseminated to all involved personnel.	Aviation Safety Officers	IAOP Review
368	6.3.1.9	The ASO shall ensure that aviation facilities are maintained and inspected in accordance with applicable OSHA and NASA safety standards.	Aviation Safety Officers	IAOP Review
369	6.3.1.10	The ASO shall provide safety oversight during the handling and stowage of cargo, including hazardous materials, aboard NASA aircraft.	Aviation Safety Officers	IAOP Review
370	6.3.1.11	ASOs shall ensure that aviation safety-related information is distributed throughout aircraft operations and maintenance.	Aviation Safety Officers	IAOP Review
371	6.3.1.11	Safety information that would be of interest Agency-wide shall be sent to the Office of Safety and Mission Assurance for distribution.	Aviation Safety Officers	IAOP Review

372	6.3.1.12	All NASA aircrew shall, at least once per calendar year, attend a crew resource management course of at least four hours in duration.	Center Chief of Flight Operations	IAOP Review
373	6.4.1	Each Center shall publish and maintain an Aircraft/Airfield Pre-Mishap Plan in accordance with the procedures established in NPR 8621.1.	Center Directors	IAOP Review
374	6.4.1	The plan shall be maintained for each NASA operational airfield, heliport, and aviation activity.	Center Directors	IAOP Review
375	6.4.1a	Each Center plan shall ensure local fire/crash-rescue personnel are briefed annually on rescue and emergency procedures peculiar to the aircraft regularly operated at that facility and prior to operation of newly acquired aircraft.	Center Directors	IAOP Review
376	6.4.1b	Each Center plan shall ensure that mock mishap drills are held and that the ASO evaluates the results to ensure optimal coordination with pre-mishap plans.	Center Directors	IAOP Review
377	6.4.1c	Each Center plan shall address procedures for aircraft mishaps away from home field.	Center Directors	IAOP Review
378	6.4.1d	Each Center plan shall establish procedures for notifying and working with the National Transportation Safety Board and the FAA for aircraft accidents reportable under Federal regulations.	Center Chief of Flight Operations	IAOP Review
379	7.2.1	Pilots shall hold an FAA First Class medical certificate, military pilot flight physical, or NASA flight medical certification renewed annually or more frequently if specified by the Center Director or a competent medical authority.	Center Chief of Flight Operations	IAOP Review

380	7.2.1.1	Flightcrew of high performance jet aircraft or ejection seat configured aircraft shall obtain a military pilot flight physical or NASA flight medical certification.	Center Chief of Flight Operations	IAOP Review
381	7.2.1.2	Pilots 55 years of age and older shall be medically certified every six months.	Center Chief of Flight Operations	IAOP Review
382	7.2.2	Flight Engineers shall hold either an FAA Second Class medical certificate, military flight physical, or NASA flight medical certification, which must be renewed annually or earlier if specified by a competent medical authority.	Center Chief of Flight Operations	IAOP Review
383	7.2.3	Other primary aircrew shall hold either an FAA Third Class medical certificate, military flight physical, or NASA flight medical certification, which must be renewed annually or earlier if specified by a competent medical authority.	Center Chief of Flight Operations	IAOP Review
384	7.2.4	Qualified non-crewmembers shall obtain medical clearances as required by Center procedures. At a minimum, a medical screening must be conducted by a NASA physician as appropriate for the mission.	Center Chief of Flight Operations	IAOP Review
385	7.2.5	Center Directors shall establish procedures, in coordination with their personnel offices, to ensure that primary aircrews are assigned to duties not involving flying if they become medically disqualified.	Center Directors	IAOP Review
386	7.3.1	Copies of current medical certification shall be kept on file at the primary aircrew and qualified non-crewmembers' operating site.	Center Chief of Flight Operations	IAOP Review

387	7.5.1	Flightcrews shall report Special Issuances (FAA Waivers) and FAA Statements of Demonstrated Ability to the Chief of Flight Operations for review by a NASA Aeromedical Physician.	Center Chief of Flight Operations	IAOP Review
388	8.1	Center Aircraft Flight Operations organizations shall coordinate all aircraft acquisition and disposition actions with the cognizant Center Supply and Equipment Management Officer(s) in accordance with NPR 4200.1, NASA Equipment Management Procedural Requirements.	Center Directors	IAOP Review
389	8.2	Prior to acquiring aircraft for operational use, the Associate Administrator of the Mission Directorate or the Center Director shall submit an acquisition request to the HQ AMD per appendix G, along with a business case analysis in support of the aircraft acquisition.	Center Directors	IAOP Review
390	8.2.1.1	In completing appendix G, the program/project manager must coordinate with the Center Environmental Management Office to determine whether the proposed aircraft acquisition requires preparation of an environmental assessment.	Center Directors	IAOP Review
391	8.2.4	AMD shall enter all acquired aircraft into FAIRS.	Aircraft Management Division	IAOP Review
392	8.2.5	Centers shall record all acquired aircraft in the NASA Equipment Management System in accordance with NPR 4200.1, NASA Equipment Management Procedural Requirements.	Center Directors	IAOP Review
393	8.2.5	Centers shall register all aircraft, excluding parts and DoD-loaned aircraft, with the FAA.	Center Directors	IAOP Review

394	8.3.1	The program/project manager or Center Director shall notify the HQ AMD prior to acquisition of an aircraft whose intended use is solely for "parts aircraft."	Center Directors	IAOP Review
395	8.3.1.1	Centers shall remove the data plates from all aircraft acquired solely for parts purposes and forward the data plates to HQ AMD for disposition.	Center Directors	IAOP Review
396	8.3.1.2	Centers shall enter parts aircraft into each respective Center's property inventory records in accordance with NPR 4200.1, NASA Equipment Management Procedural Requirements.	Center Directors	IAOP Review
397	8.3.2	Aircraft materiel, such as spare parts, shall be acquired, managed, and controlled in compliance with NPR 4100.1, NASA Materials Inventory Management Manual.	Center Directors	IAOP Review
398	8.4.1.	Disposal of NASA owned aircraft shall be in accordance with Federal Property Management Regulations and the applicable portions of NPD 4300.1, NASA Personal Property Disposal Policy, and NPR 4300.1, NASA Personal Property Disposal Procedural Requirements.	Center Directors	IAOP Review
399	8.4.1	Disposal of NASA aircraft identified as artifacts or heritage assets shall be in accordance with NPR 4310.1, Identification and Disposition of NASA Artifacts.	Center Directors	IAOP Review
400	8.4.1	Aircraft disposition shall be coordinated in advance with the HQ AMD and approved by the Assistant Administrator for Infrastructure and Administration.	Center Directors	IAOP Review
401	8.4.2	When an aircraft that has an FAA Certificate of Airworthiness is removed from the inventory, the Certificate shall be removed from the aircraft and forwarded	Center Directors	IAOP Review

		to the HQ AMD for disposition unless the aircraft is transferred to another Government agency that intends to operate it or it is sold through GSA to a civil operator.		
402	8.4.3	When an aircraft is removed from the inventory that is not capable of obtaining an FAA Certificate of Airworthiness or is deemed by the Center Flight Operations Office to be unsafe for civil use, the manufacturer's data plate shall be removed and forwarded to the HQ AMD for disposition.	Center Directors	IAOP Review
403	8.5.1	Centers shall conduct annual physical inventories of Center-owned aircraft, including display aircraft, parts aircraft, and aircraft in flyable or non-flyable storage, to determine the accuracy of the records and the NEMS control system.	Center Directors	IAOP Review
404	9.1.1	Results of the reviews shall be used to update NASA-wide or local requirements in order to enhance standardization and improve productivity.	Center Directors	IAOP Review
405	9.2.1	The HQ AMD shall establish inter-Center review teams to review all aspects of Flight Operations at NASA Centers, including the implementation of Center procedures, either biennially or as determined by the HQ AMD.	AMD	IAOP Review
406	9.3.1.4	Local operations and maintenance documents will be made available to the team, and the team members will familiarize themselves with the documents before performing field work.	IAOP Review Team Leader	IAOP Review

407	9.3.2	Instructions for reviewers shall ensure compliance with established standards, including FAA, DoD, manufacturer, industry, and association standards.	IAOP Review Team Leader	IAOP Review
408	9.3.3	The team leader shall hold daily team progress meetings to discuss discrepancies and recommendations.	IAOP Review Team Leader	IAOP Review
409	9.3.4	The team leader's exit briefing shall be in sufficient detail to inform Center management of the status of local Flight Operations activities with particular emphasis on significant findings and recommendations requiring management attention.	IAOP Review Team Leader	IAOP Review
410	9.3.5	The review team shall document results in a brief report that focuses on significant findings and recommendations.	IAOP Review Team Leader	IAOP Review
411	9.3.5	The report shall be forwarded by the review team leader to the Assistant Administrator for Infrastructure and Administration with a copy to the Center Director.	IAOP Review Team Leader	IAOP Review
412	9.3.6	The Center Director shall respond to the Assistant Administrator for Infrastructure and Administration concerning corrective actions.	Center Directors	IAOP Review
413	10.3.4	The review teams shall, for Center review purposes, function independently of Center management.	IAOP Chairman	IAOP Review
414	11.3.1	Centers shall use the NASA Aircraft Cost and Performance worksheets in appendix F to report aircraft data to HQ AMD within 45 days after the end of each quarter.	Center Directors	IAOP Review

415	11.3.1.1	Centers shall use the Aviation Inventory Report worksheet in appendix F to report the number and type of aircraft operated.	Center Directors	IAOP Review
416	11.3.1.2	The Centers shall use the Aviation Performance Report worksheet in appendix F to report aircraft operational data, unless an Agency-wide aircraft operations data reporting system is utilized.	Center Directors	IAOP Review
417	11.3.1.3	The Centers shall use the Aviation Safety Report worksheet in appendix F to report aircraft operational safety metrics, unless an Agency-wide aviation safety reporting system is utilized.	Center Directors	IAOP Review
418	11.3.1.4	The Centers shall use the Aviation Financial Report worksheet in appendix F to report aircraft costs, including contracted CAS.	Center Directors	IAOP Review
419	11.3.1.4a	Center CFOs shall implement actions to correct any data errors uncovered in the Business Warehouse.	Center Chief Financial Officer	IAOP Review
420	12.2.2	Each Center Director and Chief of Flight Operations, in close coordination with the Center Human Resources Office, shall establish a process to designate pilots and aircrew.	Center Directors	IAOP Review
421	12.2.3	Each Center Chief of Flight Operations shall establish procedures for assignment of aircrew to flight status and document those procedures in the Center Aviation Operations Manual.	Center Chief of Flight Operations	IAOP Review
422	12.3.1	Each Center Chief of Flight Operations shall establish procedures for temporary removal of aircrew personnel from flight status for situations other than medical disqualification.	Center Chief of Flight Operations	IAOP Review

423	12.3.1	The Center Director, in accordance with Human Resources procedures, shall review and approve any non-medical-related proposal for removal from flight status in excess of 30 days.	Center Directors	IAOP Review
424	12.3.4	If the reason for removing the individual from flight status is an event that is properly classifiable as a Close Call pursuant to NPR 8621.1, the process for investigation described therein shall be followed.	Center Directors	IAOP Review
425	12.3.5.2	If a Flight Performance Board is convened, a flight status recommendation shall be delivered to the Center Director.	Center Chief of Flight Operations	IAOP Review
426	13.1.1	A Center shall not operate an airfield (or helicopter landing area) unless the Center adopts and complies with an Airfield Operations Manual in accordance with Section 13.2 of this NPR.	Center Directors	IAOP Review
427	13.1.2	Each Center operating an airfield shall ensure that the FAA Regional Airports Division Manager is provided a complete copy of the Center's most current Airfield Operations Manual.	Center Directors	IAOP Review
428	13.1.3	Centers providing access to their airfield to the general public for aircraft operations conducted under civil regulations shall identify all deviations and non-compliance from 14 C.F.R. 139 and provide this information to the Office of Infrastructure and Administration for approval.	Center Directors	IAOP Review
429	13.1.4.1	Each Center shall develop and maintain an airfield emergency plan designed to minimize the possibility and extent of personal injury and property damage on the airfield in an emergency.	Center Directors	IAOP Review

430	13.1.4.2	Each Center shall coordinate the plan with law enforcement agencies, rescue and firefighting agencies, medical personnel and organizations, the principal tenants at the airfield, and all other persons who have responsibilities under the plan.	Center Directors	IAOP Review
431	13.1.4.3	At least once every 12 consecutive calendar months, review the plan with all the parties with whom the plan is coordinated, as specified in this NPR, to ensure that all parties know their responsibilities and to ensure that all information in the plan is current.	Center Directors	IAOP Review
432	13.1.4.4	Each Center shall hold a full-scale airfield emergency plan exercise at least once every 24 consecutive calendar months.	Center Directors	IAOP Review
433	13.1.5	Centers shall conduct training needed to meet the following requirements: a.) providing sufficient and qualified personnel to comply with the requirements of this NPR; b.) equipping personnel with sufficient resources to comply with the requirements of this NPR; c.) training all personnel who access movement areas and safety areas and perform duties in compliance with the requirements of the Airfield Operations Manual and the requirements of this NPR.	Center Directors	IAOP Review
434	13.1.6	All NASA Centers operating airfields or aircraft ramp areas shall conduct a Pavement Condition Index survey at least once every five years.	Center Directors	IAOP Review
435	13.1.7	Airfield condition reporting shall be conducted in a manner authorized by the Center Director and meet the requirements in this NPR.	Center Directors	IAOP Review

436	13.2.1	Each Center shall maintain an Airfield Operations Manual that includes descriptions of operating procedures, facilities and equipment, responsibility assignments, and any other information needed by personnel concerned with operating the airfield.	Center Directors	IAOP Review
437	13.2.2	Each Center shall include in the Airfield Operations Manual the elements required by this NPR.	Center Directors	IAOP Review
438	13.3.1.1	Each Center shall provide on the airfield, during aircraft operations at the airfield, at least the rescue and firefighting capability specified for the level of operations.	Airfield Manager	IAOP Review
439	13.3.1.3	All rescue and firefighting personnel shall participate in at least one live-fire drill prior to initial performance of rescue and firefighting duties and every 12 consecutive calendar months thereafter.	Airfield Manager	IAOP Review
440	13.4.1	Each Center shall take immediate action to eliminate wildlife hazards whenever they are detected.	Airfield Manager	IAOP Review
441	13.4.2	Each Center shall ensure that a wildlife hazard assessment is conducted by a wildlife damage management biologist who has professional training and/or experience in wildlife hazard management at airfields or an individual working under direct supervision of such an individual.	Airfield Manager	IAOP Review
442	13.4.3	Each Center shall conduct a training program by a qualified wildlife damage management biologist to provide airfield personnel with the knowledge and skills needed to successfully carry out the wildlife hazard management plan required by	Airfield Manager	IAOP Review

		this chapter.		
443	13.4.4	Each Center shall track and report all bird strikes and other wildlife strikes either in the Incident Reporting Information System or the NASA Aircraft Anomaly Reporting System in accordance with NPR 8621.1.	Airfield Manager	IAOP Review
444	13.4.5	Each Center shall conduct a periodic review of the bird hazard using a team similar to the U.S. Air Force Bird/Wildlife Aircraft Strike Hazard team.	Airfield Manager	IAOP Review
445	13.4.6	Each Center shall develop a wildlife hazard management plan using the wildlife hazard assessment as a basis.	Airfield Manager	IAOP Review
446	13.5.1	Unless otherwise authorized by the Center Director or the FAA (in the case of civil aircraft operations), whenever the requirements of this NPR cannot be met to the extent that uncorrected, unsafe conditions exist on the airfield, the Center shall limit aircraft operations to those portions of the airfield not rendered unsafe by those conditions.	Center Directors	IAOP Review
447	13.6.1	Each Center that deviates from a requirement under this section shall, within 14 days after the emergency, notify HQ AMD of the nature, extent, and duration of the deviation.	Center Directors	IAOP Review

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